The Interactive Training Tool (ITT)

**The Utility of ITT in
MIL-STD-2525 Validation Testing**

The Interactive Training Tool (ITT)

- **GOTS Software for Sun SPARC platforms**
- **Designed to assist in the training of Imagery Analysts**
- **Currently used worldwide at 21 U.S. Army, Air Force, and joint service sites**
- **Extensive image display and graphic annotation capabilities**
- **Automated test utility assesses an Analyst's ability to identify objects in imagery**

A Typical ITT Session

A typical ITT session consists of the:

- **Presentation of introductory information - provides lesson information to the Analyst**
- **Presentation of tutorials - instructs or illustrates concepts related to the lesson**
- **Administration of identification tests - ascertains the Analyst's understanding of what was taught**
- **Evaluation of test results - quantifies or qualifies the results of the test**

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ITT Identification Test

- **An image is displayed with annotations and truth markers (small dots over objects in the image)**
- **A panel containing line drawings of various objects and related textual descriptions is displayed**
- **The Analyst chooses the correct drawing/description representing an object in the image and clicks on the truth marker for that object**

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ITT Identification Test
(Continued)

- **ITT consults a database of objects corresponding to each truth marker**

- **ITT informs the Analyst of incorrect and correct responses**

- **ITT logs a score of the results, and records the time taken for the identification**

Evaluation of Test Results

With ITT, a test administrator can evaluate:

- **the results of an individual Analyst for one image in a test**

- **the results of an individual Analyst for all images in a test**

- **the results of all Analysts for one image in a test**

- **the results of all Analysts for all images in a test**

ITT Provides a Test/Lesson Generating Utility

With this utility, a test administrator can:

- **prepare tutorial files**
- **prepare image files (may already be provided by ITT library of 80 images or can be input from tape)**
- **annotate and save each image**
- **add truth markers to the image and related descriptions to ITT database**

ITT Image Formats

ITT can read image files in the following formats:

- **NITF**
- **Rasterfile**
- **DIDOP/IDEX II**
- **Wide Band (12-bit SARS imagery)**
- **ASARS**
- **IR-sourced imagery**

Use of ITT for MIL-STD-2525 Validation Testing

- **An image or map is displayed with truth markers - next to each truth marker is an associated MIL-STD-2525 symbol**

- **A panel containing textual descriptions of various MIL-STD-2525 attributes (Affiliations, Dimensions, Positions, or specific symbol identities) is displayed**

- **The Analyst chooses the correct attribute for a symbol on the image or map and clicks on the truth marker for that symbol**

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Use of ITT for MIL-STD-2525 Validation Testing (Continued)

- **ITT consults a database of MIL-STD-2525 attributes corresponding to each truth marker**

- **ITT informs the Analyst of incorrect and correct responses**

- **ITT logs a score of the results, and records the time taken for the identification**

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Summary

Benefit of using ITT for MIL-STD-2525 Validation Test:

- **ITT is an existing GOTS product**

- **ITT provides a sophisticated identification test framework which administers the test and maintains test results**

- **ITT provides extensive image and annotation display capabilities**

Prerequisites for ITT's Use in the Validation Test:

- **Obtain map products (ADRG, etc.) in a format that can be imported into ITT**

- **Verify that ITT can facilitate the display of MIL-STD-2525 symbols with the required colors, fills, sizes, etc.**

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Interactive Training Tool (ITT)

What is ITT?

ITT is an inexpensive computer-based training (CBT) tool designed for formal classroom or exportable, self-paced, on-the-job training of imagery analysis. ITT has been designed for a wide variety of imagery applicable to many classes of problems.

What is the status of ITT?

ITT is currently deployed worldwide at twenty-one U.S. Army, Air Force, and joint service sites. Courseware, developed for military applications, consists of more than 700 images with reference materials on 1,000 objects relating to radar, optical, and infrared imagery. A classroom with 18 workstations has been installed at the U.S. Army Intelligence Training Center, Ft. Huachuca, Arizona, and a number of courses are being taught using ITT. We are actively engaged in delivering ITT to other sites and developing more courses.

What is the value of ITT?

ITT makes the instruction more productive. Students proceed at their own pace and their progress can be monitored for remediation. The tool facilitates rapid updating of training materials and codifies the knowledge of subject matter experts. Students find the interactive features of ITT both entertaining and stimulating.

ITT HOT LINE

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ITT
Interactive Training Tool (ITT)

System Features

Collateral Data Input
- Digital Documents with Images, Text & Graphics
- Text Overview in Graphics & Data Entry Windows
- Graphics Creation Package

Mensuration
- Direct Mensuration in Pixel Accuracy on Raster Imagery
- Laser Control Mensuration on EOSR Imagery

Image Manipulation Capabilities
- Roam
- Rotate
- Magnify/Minify
- Copy/Paste
- Split Window (One Side active, Click to Switch)
- Unique "Cross Hair" Design for Brightness & Contrast
- Capability To Set Brightness & Contrast on an Image & Save As Default Values

Numerous Image Processing & Image Enhancement Capabilities

Extensive Text & Graphics Annotation Capabilities

System Help Options
- System Help
- Cursor & Keyboard Help Key Calls Help Workbox
- Detailed Users Manual
- Quick System Reference Guide

Imagery Analysis Reference Guides & Keys
- Reference Once Help, Digitized Reference Guides & Keys Materials Tied to Each Object in Lesson
- Reference Data Accessed via Query
- Detailed Reference Help in Online Books

Numerous Hardcopy Printing Capabilities

Student Exercise & Examination Options
- Multiple Choice Icon Based Exercises/Exams
- Annotated Images & Paper Test Handout
- Clean Image for Search Exercises & Exams

Product Options
- Primary Product is IA Training Courseware (Lessons) on Magneto-Optical Disk Cartridges
- Operational Target Area Training for Tactical Users is an Option
- Secondary ITT Products
- RG&R Material Production
- Formal Printed Pages
- Inhorzed SX or Printed Reference Guide Material
- Target Material Production

Expandable Lesson Media
- Magneto-Optical Disks, 550 megabytes
- About 60 Images & Associated Reference Files per Disk

ITT Instructor and Student Training

Student - Training lessons are based on actual imagery with multiple choice tests supported by extensive help files in the form of image, graphic, and text-based reference materials. Student system operation training takes about 1 hour. Student progress is recorded for instructor monitoring and evaluation.

Courseware Authoring - Instructors use workstations and peripherals to build courses. Authoring requires no programming experience. Full authoring competency can be achieved in 2-3 days following 3-4 hours of instruction and hands-on practice.

Data Acquisition and Management - Imagery and collateral support software input via the Instructor workstation. Operators load and store data, slice and manipulate imagery, and build hard files. Using the instructor workstation equipment, operators can achieve basic operating capability in a few hours and full database competency in a few days.

Hardware Requirements

Student Workstation
Sun SPARC or Equivalent Unix Workstation
Color Graphics Accelerator
64 Mbyte Memory
Magneto-Optical Disk Drive

Instructor Workstation
Sun SPARC 20 or Equivalent Unix Workstation
Color Graphics Accelerator
128 Mbyte Memory
5 Gbyte Disk
2 Magneto-Optical Disk Drives
8mm Tape Drive
Document Scanner
Film Quality Digitizer
LaserWriter
Image Printer - Kodak 7920 or Equivalent